No. 3

A CASE

Sam'l Mitchill.

OF

from the author

HYDROCEPHALUS,

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READ BEFORE THE

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AND PUBLISHED AT THEIR REQUEST;

BY JOSEPH GLOVER, M. D.

Surgeon-General of the State of South-Carolina, &c.

"IN APRICUM PROFERET ÆTAS,"
Hor.

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For Dr. S. L. Mitchill
with the compliments
of — J. Glover

A CASE, &c.

Mr. President and Gentlemen,

HUMAN knowledge is so limited, that he who observes, must each day add something to his stock of experience; and although theory has been said to be to the Physician and Surgeon what the compass is to the mariner; yet, experience is the best test of theory, for it teaches us to embrace the one, which will explain to us the greater number of the phenomena which occur. How necessary therefore, is it for each of us to throw his mite into the scale of science, for in no profession, be assured, is it more necessary than in the one which we have embraced. Impressed with the correctness of these ideas, I submit to your consideration the following case:

On the 13th of December, 1817, I was requested to visit the child of Mr. H. on South-Bay; I was informed on my arrival, that Mrs. H. had been delivered of a female child, on the 21st of the preceding month; that the birth was not premature; that she had been in good health during her pregnancy; that she had previously borne five healthful children, and that the

child to which I had been called, was in every respect perfect, except that she had a watery head, which was discovered shortly after her birth; that various remedies had been tried without effect, and that her head had increased in size so much as to give great uneasiness to her parents, and was evidently very distressing to the child herself.

On examination, I found the head of the child much enlarged, being $18\frac{1}{2}$ inches in circumference, measuring over the frontal and occipital bones; and $19\frac{3}{4}$ inches measuring from under the chin over the ossa parietalia. I discovered all the proper bones of the cranium to be considerably separated at their sutures, and found an evident fluctuation of water within them.

The child was to appearance, (in every other respect,) healthful; had no symptom of fever, that I could discover, and was reported to me as nursing well. There was however an evident distortion of her eyes, and moreover she had a countenance from which nothing favorable could be drawn. I therefore deemed it my duty to inform her parents, that from my own experience, as well as from the cases of which I had read, little more than hope remained of the recovery of their child; suggested a plan of treatment and retired.

I repeated my visits at interrupted periods, until the second of March following, during which time, I attempted every plan of treatment for the relief of my patient, which either my judgment dictated, or that I could collect from the authors on the subject, which were within my reach; but, they were of no

avail. The disease continued to increase with great rapidity, and nothing but a prolonged existence of misery, and an untimely death appeared to await my patient, her head having now increased in size to two feet in circumference, measuring over the frontal and occipital bones, and one inch more measuring from under the chin over the ossa parietalia. Under these circumstances, I thought proper to advise the operation of tapping the head, as the only means left within my power, which appeared to afford the least prospect of relief to my patient. To this her parents readily consented. I therefore invited several of my medical friends, and performed the operation on the day following, being the 3d of March, 1818, in the presenceof Dr. Jos. Johnson, Dr. Whitridge, Dr. Waring, Dr. Frost, Dr. Hume, and my brother Dr. H. C. Glover.

It was done in the following manner:—Perceiving that the fluctuation was most distinctly felt, on the right side of the childs head, between the parietal and temporal bones in the course of the squamose suture, I punctured the head in that part, with a common lancet, and by introducing a grooved director into the incision, was enabled to let off the water as freely as I wished. A person who was not present, would perhaps suppose, that the danger of wounding a branch of the temporal artery, would render this a very improper place at which to puncture the head, but, I can assure you, that I could discover its course so readily in this case, that it was not at all difficult to avoid it.

There was scarcely any discharge of blood from the puncture; but when we had drawn off a pint of

water, it was perceived that the bones of the cranium were so slightly attached to each other at their sutures, and the collapse of the integuments was so great, that it was judged advisable to withdraw the director, and take away no more water at that time. The water drawn off was such as we generally see in ascites, and in dropsical depositions in other parts of the body.

In attempting to bandage the head, the bones yielded so much, after the water had been thus evacuated, that there appeared to be great danger of injuring the parts within the cranium, on lifting the head with our hands. I was therefore obliged to slip a wide bandage under the head, (with which to make the pressure more equal when the head was elevated,) before I was enabled to apply the necessary bandages for completing the dressing. I made no other application to the wound made by my lancet, than a plaster of oil and wax, over which I placed a compress and two circular bandages; (for the purpose of supporting the bones and bringing them in contact at their sutures) the one around the head over the frontal and occipital bones; the other, from under the chin and over the ossa parietalia The child appeared to suffer very little pain from the operation, and when I visited her on the evening of that day, nothing had occured worthy of being noted down.

On the morning of the fourth of March, I found my patient as well as usual. She had been somewhat restless, during the first part of the preceding night, but was soon relieved by an anodyne, which (I have omitted to mention) her mother had been obliged to give her repeatedly before, to procure sleep. I was

informed that she had passed an unusual quantity of water by urine since the operation.

It was my intention to have introduced my director at this visit, and to have let off a further quantity of water, before the lips of the wound had healed; but, the day being cold and rainy, I thought it most advisable to defer it.

On the morning of the fifth of March, the weather being favorable, and my patient being as well as usual, (in the presence of several of my medical friends,) I separated the lips of the wound with a probe, introduced my director and let off another pint (by measure) of water. The child appeared to suffer as little pain as before, from the operation; the bones of the head were more firmly attached to each other, and I was enabled to apply the necessary bandages with much less difficulty.

I found my patient, on the morning of the sixth of March, very languid and to appearance much worse. I discovered, that there had been a very considerable discharge of water from the incision during the night, and that the child was much exhausted in consequence of it. The lips of the wound had not united, by the first intention, as after the first tapping, and the water had continued to ooze through the orifice, from the time my director had been withdrawn. I immediately applied a small dossil of lint to the part, and when I visited the child in the evening, I was happy to find her somewhat recovered.

On the morning of the seventh of March, I found my patient as free from pain, as before the operation, and much revived, having sucked heartily, and hav-

ing had a good nights rest. I discovered however, that the discharge of water from the orifice having ceased, its accumulation had evidently increased, and the fluctuation had become more distinct.

It became necessary on the morning of the eighth of March, to repeat the operation of tapping the head, for the third time, which was done in the presence of several medical gentlemen, in the manner last mentioned, and another pint (by measure) of water was drawn off. The child did not appear to suffer more pain than from the previous operations.

When I visited the child on the morning of the ninth of March, she was as well as usual; but, on examining her head, I discovered that the water was again accumulating.

On the morning of the tenth of March, the child being still as well as usual, and finding the water had increased considerably in quantity, I resolved again to let it off, before the incision had healed, in order to supercede the necessity of making a new orifice. This I accordingly did, in the presence of several of my medical friends, and let off three gills (by measure) of water, making three pints and three gills, which were drawn off in the four several operations of tapping the head, from the third to the tenth of March; and all of which were borne by my patient with very little apparent suffering, and evidently with the happiest result, for the child had become more fleshy; and if the water did not cease to collect, its accumulation was now slow.

From the tenth to the twentieth of March, my patient continued to improve in health. The bones

of the cranium had approximated considerably, and were uniting at their sutures. The deposition of water was inconsiderable and its accumulation slow. Her eyes were very little distorted. She was able to move her head ; knew her mother ; sucked heartily ; passed a considerable quantity of water daily by urine; and in fact every favorable symptom presenting itself to our view, we had every thing to hope.

On the morning of the twenty-first of March, the child's head measured only 19 inches over the frontal and occipital bones, and an inch more from under the chin and over the ossa parietalia ; after an interval therefore of ten days from the last operation, it was very little larger than when I first saw the child, which was on the 13th of December, 1817, and her health had now much improved.

On the twenty-second of March, I found the child very sick, she had been distressed through the night (from taking improper food) with cholera morbus ; was much reduced and very languid, being scarcely able to suck without her chin being supported by her nurse ; she had likewise had two or three convulsions through the night. I ordered her an absorbent anodyne mixture.

On the twenty-third of March, my patient was still very ill, having had nineteen convulsions within the last twenty-four hours.

On the twenty-fourth of March she was still very ill, but had had only two convulsions during the preced- twenty-four hours.

On the twenty-fifth of March, she was still ill, she had had only two convulsions during the preceding twenty-four hours.

On the twenty-sixth of March, I found my patient somewhat better, she had been free from convulsions and continued so until the night of tne twenty-ninth, when she had another. We finally succeeded in relieving her bowel complaint, and with it her convulsions ceased. The plan of treatment which I pursued in the cure of this unwelcome and unexpected innovation of another and distinct disease, it is unnecessary that I should mention here. I am sure it would not be new to you.

No sooner was my patient relieved from her attack of cholera morbus, than I perceived, that the water was again accumulating within the cranium. She notwithstanding continued to acquire strength, and improved in her general health, until the 14th of April, 1818, when, the quantity of water effused, indicated the necessity of another operation. I determined to repeat it for the fifth time (her head measuring 18 and 20 inches in the two several directions hitherto mentioned) but, here, a difficulty arose; little or no fluctuation of water could be discovered at the part where I had previously operated so often with safety and success. The parietal and temporal bones had united at the sq[illegible]a nose suture, and it became necessary to make the incision in another place. The fluctuation being most distinct in the course of the coronal suture, I made the incision on the right side of the childs head, at an equal distance between the frontal and parietal bones (these bones being se-

parated at their sutures) and at about an equal distance from the sagittal and squamose sutures and finished the operation as before. I succeeded in drawing off another pint (by measure) of water, in the presence of Drs. Porcher and Waring and several of my pupils. Only a few drops of blood escaped from the incision, and nothing unfavorable occurred during the operation ; but, when it was over, I perceived, that the head had been more completely evacuated of water than from any previous tapping ; that the collapse of the integuments was greater, and that the cavity at the anterior fontanelle was large enough to receive a hens egg ; the child too became pale, her pulse was languid, she was likewise threathened with vomiting, and shewed evident symptoms of a disposition to faint. She however revived in a few moments, after the dressings were applied and sucked tolerably well. I have since thought that we drew off more water at this tapping than the child bore with convenience, or than was proper. The medical gentlemen present were of opinion, that the childs eyes were much less distorted after, than previous to the operation.

In the evening on visiting my patient, I was informed by her mother, that she very soon recovered from the effects of the operation ; that she was then very easy, and had slept several hours.

On the fifteenth of April, my patient was much better. She had passed a more tranquil night than she had done for a fortnight, and without taking an anodyne ; she sucked well, and squinted less than I had ever before observed. Some water however, was again discovered to be effused within the cranium, and the

head had in some degree recovered its fullness. No oozing had taken place from the incision of the day before.

My patient was as well as usual on the sixteenth of April. Her mother then informed me she had observed, that when her child had been recently tapped and there was little water present in her head, she was enabled to direct her eyes to any object; but, that when the collection of water was considerable, the reverse was the case ; that, then strabismus and an involuntary motion of the eyes was always present. Some water having now collected, and the last incision having not yet healed, I resolved to introduce my director for the purpose of letting it off the sixth time. I did so, and discharged a gill (by measure) which I believe to have been all which had collected, as the subsequent collapse was considerable. She bore the operation extremely well, and appeared to suffer very little pain from it.

From the sixteenth of April to the eleventh of May, my patient continued to improve in health, and nothing occurred worthy of notice.

On the twelfth of May, business of an imperious nature, obliging me to leave the city, I committed the care of my patient to Dr. H. Waring, who informed me on my return, that the child had several convulsions on the nineteenth and twentieth, and that on the twenty-first, the accumulation of water made it necessary for him to repeat the operation, (being the seventh time) which he accordingly performed in the presence of Dr. Whitridge, when three gills of water were drawn off. He likewise observed

to me that the child had two convulsions a short time previous to his operating, but that they ceased to return after the head had been tapped.

The child soon recovered from the effects of the operation, and when I returned to the city on the twenty-third of May, I found my patient as well as usual. The water however, I shortly after perceived to be still accumulating, and on the thirteenth of June it became necessary to tap her head, the eighth time. I performed the operation as before, in the presence of several of my pupils, and a pint of water (by measure) was again drawn off. Her head measured in circumference, previous to the operation, 20 inches over the frontal and occipital bones, and 24 inches from under the chin and over the ossa parietalia. The child suffered as little from this, as from any of the previous operations, and I at length began to flatter myself that my endeavours to relieve my little patient would ultimately prove successful.

In this, however, I was disappointed. A few days only had elapsed when I discovered my patient to be much worse. I found her gums much swollen and occasioning her considerable distress; she likewise had thrush, and evident symptoms of whooping cough.

On the morning of the seventeenth of June, she had very high fever, and I was informed by her mother that she had had no sleep during the night, having been excessively distressed with paroxysms of convulsive coughing. Her fever continued without intermission, attended with cough and occasional

convulsions, until the morning of the twenty-first of June, when all my efforts to relieve her proving ineffectual, she died.

It is perhaps worthy of notice, that, so soon as the febrile action commenced in the system, the accumulation of water in the head became much more rapid, than was discovered at any previous period of the disease. It was likewise uniformly observed, that after each tapping the kidnies did their duty more freely for several days, and there was much more water discharged, by urine, than at any other time, even when they were stimulated by diuretics.

The head, after death, measured 20 inches in circumference over the frontal and occipital bones, and 24 inches from under the chin and over the ossa parietalia.

On tapping the head three pints of water (by measure) were taken away (in the presence of Dr. H. Waring, my brother Dr. H. C. Glover, and several others) making in the whole 9¾ pints which were drawn off in this case in the short period of little more than three months, from a child who was only seven months old.

The head being opened, I found that the opinion which I had given of the case was correct. The water had been contained between the dura and pia-mater. The dura-mater was much thickened, but shewed no marks of acute inflammation.

The brain was nearly all absorbed, but what remained of it, rested with its pia-mater on the base of the cranium. It had lost much of its consistence; indeed, I found it impossible to distinguish the seve-

ral parts of which it was composed, and on appealing to the gentlemen present, they, as well as myself, were of opinion, that it was not larger than a hens egg ; and yet, astonishing to relate, this child retained her senses to the last, and appeared to possess many of the faculties of the mind.

I cannot conclude the statement of this case, without recommending to you the operation of tapping the head in this species of hydrocephalus, in the strongest terms. I believe it to be the surest, safest, and most speedy method of relieving, if not of curing this very formidable disease, and I have now to regret that I did not have recourse to it earlier in the case which I have just related.

It will be recollected, that from the 13th of December 1817, (the day on which I first visited this patient) to the 3d of March 1818, (the day of the first operation) the disease had increased with great rapidity, under various plans of treatment. No sooner however, did we have recourse to the operation of tapping the head than the disease (to say the least of it) was arrested. Had we therefore commenced with it earlier, it is evident the chances of success would have been greater.

The operation of itself, is as safe and easy as bloodletting. Perhaps at this assertion some of you may smile, and think me too sanguine ; to such of you, I would answer in the language of the immortal Rush, "dies doceat."

To use our best endeavours to improve the healing art, and learn to relieve the sufferings of humanity, is

at least a pleasant, if not an honorable employment. Let us therefore, I beseeeh you, stimulate each other to exertion; let us humbly imitate the bright examples of Shippen, of Rush, of Barton, of Wistar, and the American Archimides, in surgery, Physick; let us discuss this case freely; let us not forget, that one of the first objects of our Society is mutual improvement; let us always remember the motto, "EX COLLISIONE SCINTILLA."